

# VACCINATION:

WITH A VIEW TO MAKE IT

MORE EFFECTUAL AND FREE FROM  
OBJECTION.

BY

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SIMPKIN, MARSHALL, & Co.,

STATIONERS' COURT ;

AND J. COVENTRY, HACKNEY

1878.



VACCINATION is so great a boon to mankind, and the disease it mitigates so loathsome as well as destructive, that the Public are even more interested in promoting it than the Profession.

Those who object should remember, that the consequences of neglect fall even more on others than on themselves; because every un-vaccinated person may become the means of spreading the disease in its most virulent form; also, that the defects of an Institution are not so much an argument for its abolition, as a reason for its improvement.

*Five Houses, Clapton, Middlesex.*

*1st May, 1878.*



THE prevalence of Small Pox is owing to imperfect Vaccination.

Perfect Vaccination means not only that every one should be vaccinated successfully, but that the process should run a strictly normal course.

Government has provided for the perfect Vaccination of the community, and it is unfortunate in the interests of the public, as well as troublesome, that some persons should set themselves in opposition to so salutary an enactment.

If we inquire into the cause of this opposition we shall find that practically Vaccination is not only imperfect, but open to objection; that it not only in some degree fails to secure the advantages it promises and undertakes to secure, but that it is also, at times, productive of serious unfavourable results. It is contended that a more strict adherence to the simple rules which ought invariably to be observed in its performance, and a slight modification of the practice usually observed, will go far not only to make Vaccination more effectual, but also to free it from the objections to which it is liable.

The Profession has latterly admitted the imperfection of a single Vaccination by enjoining Re-

Vaccination. Individually I have practised this for more than thirty years. In the year 1845 I was requested to vaccinate two adult families of four each, all of whom had been vaccinated in infancy by my father, so that I knew the operation in each instance had been well and carefully done. In each of these eight instances the vesicle rose more or less; in some closely approximating the normal primary vesicle. It was therefore doubtful whether these persons were really protected, and evident that if at all, it was in a varying degree. It was also certain that some causes personal or other had influenced the primary Vaccination and prevented an uniform result. It must be borne in mind that these eight persons had not been vaccinated together when infants, but at different times, so that the preventing causes were not occasional but likely to obtain in other instances.

Thus circumstances which we cannot wholly explain evidently make a difference in the success of a primary Vaccination in respect of the degree in which it affords protection from a severe form of Small Pox, and we remain in ignorance as to what this protective power may be till we have recourse to Re-Vaccination, which thus becomes the complement of primary Vaccination, filling up, as it were, the measure of protection and making it complete.

Some years ago Mr. Bryce, whose name as well

as his work on Vaccination has been by no means so well remembered as it deserves to be, suggested as a very ingenious test of the efficacy of primary Vaccination, the Re-Vaccination of the patient by lymph taken from the vesicle on his own arm on the fifth day; that is expressly from 24 to 36 hours before the formation of the areola. He says—

“The affection produced by this second inoculation, will be accelerated in its progress so as to arrive at maturity, and again fade at nearly the same time as the affection arising from the first inoculation; and that this will take place, although the constitutional affection be so slight as otherwise to pass unnoticed. If we take matter, for example, on the fifth day after a successful Vaccination, and insert it into the opposite arm, this second operation will be followed by a minute vesicle on the third or fourth day, being the eighth or ninth from the date of the first, and will be immediately afterwards surrounded with an areola, becoming on the fifth day of its own existence an exact miniature of the first upon its tenth day: both will have finished their course at the same period, that being usually the thirteenth day from the first inoculation, and eighth from the second.”

It also happened to me on one occasion to run short of a supply of lymph and to find what I had deteriorated in quality. That is to say, the course of the vesicle it produced was not normal. Not



only did the areola begin to form on the sixth or seventh day instead of the eighth, but the constitutional effects were also abnormal and attended by a greater amount of irritation and constitutional disturbance than were properly due to Vaccination. This deterioration had attended the prescribed practice of taking the lymph on the eighth day, and it occurred to me, very probably deriving the suggestion from Mr. Bryce's test, that it might be remedied by vaccinating with lymph taken at an earlier date: the practice of taking lymph on the eighth day being purely conventional, no apparent reason existing why it should not be taken and used as soon as secreted. Following this plan, I found to my great satisfaction that *lymph taken thus early from a vesicle which became irregular after the sixth or seventh day recovered its pristine power and generated a vesicle which ran a normal course.* Not only was this fact of great interest, but also of great importance, because it gave me the power of obtaining good available lymph which I could not otherwise readily procure. It also raised in my mind the question how far the falling off in the efficacy of vaccination was due to propagating the vesicle by lymph taken after the formation of the areola, that is after the pure character of the lymph has passed into an admixture of more or less pus or matter. Such deteriorated lymph not only being less effective for the intended purpose, but having



also the great disadvantage of being liable to cause grave constitutional disturbance.

“Mr. Bryce ascertained, that although the fluid found in the vesicle after the formation of the areola seldom produced a perfect disease, still the dry crust of a mature cow-pock always succeeded. He explained this apparent anomaly by inferring that the crust is actually the limpid virus in a concentrated state; and that the fluid occasionally found in the vesicle, after the crust has begun to form, is merely the product of irritation and not specific. At all events a solution of the crust is found to produce a true cow-pock; and by keeping it dry in a well-stopped phial, its activity can be preserved to a very extended period.”

The plan suggested by Mr. Bryce has two important advantages. First, it provides for Vaccination and Re-Vaccination in one, and thus it may be fairly presumed, adds to the efficacy of a first Vaccination. Secondly, it secures that the lymph with which Re-Vaccination is performed is taken before the formation of the areola. I am quite aware that this rule is laid down in directions for Vaccination, but the point for which I contend is that the efficacy of Vaccination has been impaired by deviation from this established rule. It cannot be too strongly impressed upon the minds of all who are concerned in this important work that *this rule is golden*, and that to deviate from it is not

only to deteriorate and invalidate the effect of Vaccination, but also to give rise to those adverse consequences which are the groundwork of the objections raised against Vaccination proper. Again, some who have had large experience have also virtually admitted the insufficient protection of a single Vaccination by recommending that it should be done in a larger number of places, to the great disfigurement in some instances of "the ivory shoulder." I venture to think that Mr. Bryce's test is a fair set off against the excess of this practice.

Experience is certainly in favour of a milder visitation of Small Pox in those patients whose arms show the larger number of marks, nevertheless, I have more confidence in the efficacy of doing a little in accordance with strict rule, than in multiplying instances from a source of less established purity. I have great confidence in Vaccination pure and simple, and do not altogether see how the value of the process is much enhanced by the aforesaid multiplication. It is a fair question how far a severe attack of primary variola exempts from a future attack, more than a mild one. I have known at least two instances of a second attack in persons very much pitted and strongly marked. It would thus appear that the recovery of the power of Vaccination against the evils of Small Pox lies as it were in a nut-shell, and that the credit of this reformation is due to Mr. Bryce. I have not been

able to follow out the investigation of the matter to its practical results, and to do so now would be to lose valuable time, but it appears to stand to very sound reason that Bryce's test should at once become the rule of Vaccination and be universally adopted. In private practice this can easily be done, it involves a little more trouble which is more than compensated by the satisfaction of additional security. In public practice it would certainly give more trouble and alter the present very convenient rule of directing the patient to attend "this day week;" but, I repeat, *observation has shown me that this convenient rule has, in some degree at least, led to the deterioration of Vaccination.* It is quite true that although in some cases the areola may not begin to form till after the seventh day, there are many cases in which it does and will before that time. Practically I am convinced of the advantages to be derived from taking the lymph at an earlier date. The whole matter is so important, not only to ourselves but to the whole of mankind, that, admitting that future Vaccination will require more care and give more trouble, it must be paid for; and taking into account the advantages that would follow, not even the most parsimonious Government would object to the increased expenditure.

To go a little more into detail, a patient vaccinated on Monday, would have Bryce's test properly applied on Saturday; a patient vaccinated on

Saturday, on the following Thursday, and so on. But, as on the one hand, lymph, or rather matter, taken from a vesicle after the areola has formed, generates a vesicle in which the areola will form abnormally early in an increasing degree, so on the other hand, lymph taken from a vesicle before the areola has formed, will generate a vesicle in which the areola will be delayed till the normal period, and *even in some cases beyond it*. I am not aware that this point has been before recorded, even if it has been observed; but it is one of very great interest and importance, and cannot be too widely known and acted on.

I may say in conclusion, I am not aware that any other than a modified form of Variola or Small Pox has occurred to any patient vaccinated by me. This is undoubtedly true as far as my own experience is concerned, but many of my patients have necessarily gone beyond my own ken. If Vaccination has so far not actually stamped out Small Pox, it has at least materially neutralized its intensity and tended to reduce it from a virulent plague to a mild disorder. That it is capable of reducing it to the unknown condition of The Plague, there can be no doubt.

NOTE.—I have often thought that the exhibition of photographs of Vaccination side by side with cases of Small Pox in its several Stages, would do more to convince those who object to Vaccination than volumes of oral or written persuasion.

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